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ABSTRACT

To further national goals for educational technology use, the College of Education at the University of Illinois Urbana-Champaign established a new Office of Educational Technology (OET) in the fall of 1996, which is supporting faculty with the integration of technology using multiple means. The means of support include co-teaching of technology strands in courses, individualized one-on-one faculty consulting, workshops, and technical troubleshooting and repair. Rather than being presented in semester-long courses in isolation, technology is integrated into a number of sections of preservice teacher education courses. The most significant use of this stranding model is in the Year Long Program (YLP), an option for elementary education student teachers during their senior year. The YLP has served as a pilot for redesign of the entire student teaching program. A central construct of the redesigned program is the use of reflection on practice in learning to teach, with technology as one of the elements of teaching upon which the student reflects. (AEF)

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Multiple means of support: The role of the Office of Educational Technology in faculty development

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Technology development in colleges of education has become a high national priority. The reality is that "technology is not central to the teacher education preparation experience in most colleges of education." (Office of Technology Assessment); according to a May 1996 survey of schools of education, only 45% of the faculty regularly used computers, TV's and VCR's as interactive instructional tools during class period. 58% do not have any classrooms wired for the Internet, and 19% have no web site, (Zehr). As a result, many are calling for an acceleration of the integration of technology into the delivery and content of courses as a key to preparation of future teachers. In a recent report, the President's Commission of Advisors on Science and Technology have indicated that "colleges of education should be encouraged to find ways to reward faculty members who include new technologies in the methods of content of their courses (President's Commission). Another influential group, the National Association of Secondary School Principals, has also called for reform. "Preparation to work with technology ought to be basic to teacher education. Teachers should learn to use technology as an ally in helping students make better use of inquiry-driven knowledge construction strategies. Colleges and universities that prepare and certify teachers must accept responsibility for ensuring that those who embark on careers in the classroom reach this level." (NASSP).

To further these goals, the College of Education at the University of Illinois Urbana-Champaign established a new Office of Educational Technology in the fall of 1996, which is supporting faculty with the integration of technology using multiple means. The means of support include co-teaching of technology strands in courses, individualized one-on-one faculty consulting, workshops, and technical troubleshooting and repair. The staff of the OET recognize the need for this broad range of support to facilitate successful integration of technology throughout the various academic programs in the College, and to provide continued support for technology development for faculty and staff.

Technology strands through course work

Within the College of Education, OET staff and College faculty have piloted a stranding approach to technology integration into course work. Rather than presenting technology in semester-long courses in isolation, we have integrated technology into a number of sections of pre-service teacher education courses. The most significant use of this stranding model is in the Year Long Program (YLP), which is an option for elementary education student teachers during their senior year. In the YLP, students concurrently teach in cooperating classrooms while they complete their methods courses. The course work allows the students to reflect upon their practice while they gain more time in the classroom compared to the regular semester-long teaching practicum. Since technological literacy is viewed as an integral part of what it means to be a teacher, course time is provided for training in the use of technology, with the requirement that students test and incorporate technology into their student teaching experience.

The role of OET in this process has been to (1) provide on-going support to the primary YLP course instructors, (2) provide laptop computers for the YLP students, (3) conduct workshops designed with YLP instructors, and (4) co-teach sessions that deal with teaching techniques, integration, and

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critical issues of technology. This co-teaching of course sessions goes beyond what is often expected of a college technology support office. We recognize that most faculty are often learning about technology with their students. With co-teaching, we are helping faculty become better "models" of technology users for their students. Co-teaching helps the OET staff stay current with the more important issues of teaching and learning. In that way, we become a more valuable resource for faculty.

The YLP has served as a pilot for redesign of the entire student teaching program. A central construct of the redesigned program is the use of reflection on practice in learning to teach. Technology should be one of the elements of teaching upon which the student reflect. With the redesign, the notion of stranding takes on heightened meaning in that all of the courses are connected along multiple strands which include technology. Our goals of technology integration are based upon ISTE technology competencies. We are currently devising a methods to manage this stranding of technology, which already include the use of web-based support environments for evaluation, technical support, and courseware development. We are also pursuing new techniques of synchronous and asynchronous support for co-teaching, which include video conferencing with cooperating schools, digital interactive video of student and faculty teaching, and increased development of more interactive course web pages.

Individualized Consulting

The success of the first year of operation of the Office of Educational Technology was due in part to its in-house workshop efforts aimed at faculty training. Upon reviewing the role the workshops played in faculty development, however, it was clear that the OET workshops were meeting the general needs of the faculty, but the individual needs of many faculty members were not being met. As a result, a model for consulting within the Office of Educational Technology (OET) was designed.

We assessed the technology needs of the faculty both in terms of hardware acquisition and software application training. This was based on feedback given on the workshop evaluation forms and on requests sent to the OET office staff for help in specific areas. The needs of the faculty fell into two categories. Some faculty needed training on specific hardware or software technologies which they believed could be integrated into their curriculum. Others did not have a technology plan and thus wanted help in determining their technological needs and how those needs could be addressed.

At the beginning of this year, the part-time OET graduate students identified their individual areas of specialization and established the office hours which they would devote to consulting. Each graduate assistant was required to devote 80 percent of his or her assistantship to office hours. Most consulting is done by appointment after a brief meeting with the faculty member to determine how much time to set aside for a future meeting.

Faculty hav been apprised of the consulting hours in three ways: 1) the consultants' hours and areas of specialization are listed on the OET Web pages; 2) within workshops, announcements are made regarding consulting hours; and 3) announcements are made via email. The greatest response for consultation with the graduate students has been via word of mouth during the workshops.

Finally, we have been logging the hours that the graduate students spend consulting. The goal of the tracking is to determine which departments are using the consultants' hours, what topics are being covered, and determining if there are topics which may be better addressed by a workshop that would be geared to departmental or unit needs. This fall, the majority of the consultants' hours have been spent teaching faculty how to use Windows applications and Web authoring software, discussing hardware and network protocols, and helping faculty learn to use multimedia technologies like digital images and digital video.

Workshops

Hands-on workshops are held regularly in the Instructional Computing Lab on a variety of topics for faculty and staff. Topics have been generated by faculty surveys, informal requests, and at the suggestion of OET and ICL staff. Workshops are taught by graduate students, faculty and staff. We try to keep workshops small, hands-on, and when possible, we attempt to have one or two helpers circulate around the room for assistance to participants in addition to the main presenter.

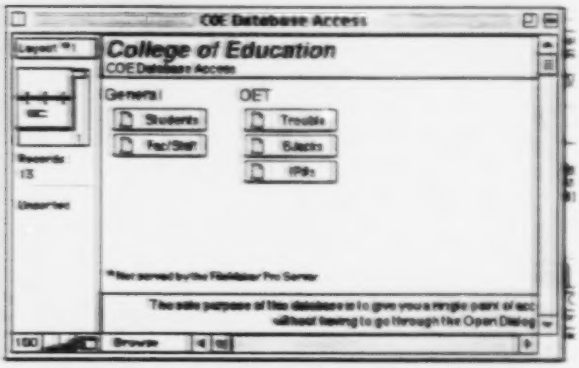
This year we have tried to better organize and standardize workshop procedures. One graduate student helps to coordinate workshops, and he has prepared a workshop packet for presenters. This includes an information sheet detailing the materials to be covered in the workshop, a request for copies of handouts, suggestions for presenters, a sign in sheet for the workshop, and an evaluation sheet for participants to complete.

Workshops are announced at the beginning of the semester both electronically (by an email reflector and on the web site) and by print brochures distributed in mailboxes. Participants can sign up for workshops (which are limited in attendance to the number of computers in the ICL classroom, approximately 15) by phone, by email, or by coming to the office and signing up. The secretary handles records of sign-ups and collects copies of handouts, materials, sign in sheets, et al. and archives this information in a file as well as enters it in a data base.

The actual content of a few of the workshops is posted on the OET website electronically. For example, one workshop on creating slide presentation using PowerPoint was conducted using PowerPoint; that presentation was saved as html and posted on the OET web site.

The Instructional Computing Lab is equipped with PowerMacs (most of which have a PC card) and Pentium machines. The room has a new ceiling- mounted projection system which has been very helpful for instruction. We have found that with both Mac and Windows users in the College of Education, it is better to offer training separately on each platform. We have tried, for example, to conduct a workshop in PowerPoint simultaneously on the PC and Mac platform but have found it too confusing for participants.

Many workshops are on short topics, offered for a two hour time period (such as Using Internet Search Engines). More complex topics are often spread out to a series of three consecutive workshops, each a week apart (such as Creating Your Own Website).



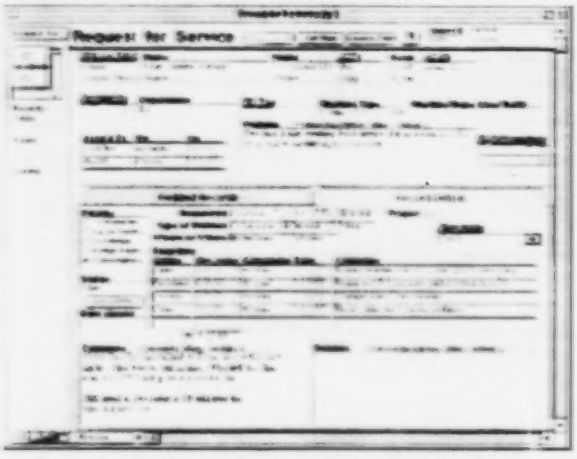
A sampling of workshop topics for this year includes the following: Internet Search Tools, Introduction to Windows 95, Creating Slide Presentations Using PowerPoint, Troubleshooting Your Computer, Using the Internet to Access Library Resources, Introduction to HTML Coding, Introduction to Front Page, Introduction to Data Bases Using FileMaker Pro, and others.

Technical Support

Our technical support efforts have been enhanced significantly in the past 18 months. One of the most important changes has been the implementation of a "trouble ticket" system that allows our support staff to better track requests and to work with minimal supervision. Another, more proactive change, is the implementation of a program known as the "Unit Reps" program designed to distribute technical knowledge and skills.

The hub of the so-called "trouble ticket" system is the full-time OET secretary who plays the role of dispatcher. All requests for help come by telephone to her. She uses Meeting Maker to identify who is on duty and when (and can schedule appointments when necessary), FileMaker Pro to record all "trouble ticket" communications (e.g., requests for support) and to search for related information, and Eudora to communicate more urgent messages to involved parties, including pages for emergencies. The trouble shooter on duty carries a pager and a cell phone.

While the secretary is the hub of the system, the FileMaker Pro database is the primary cog. In addition to providing support staff with a dynamic tally of all open tickets (sortable by many criteria), the data base contains information such as how long trouble shooters spent working on a particular ticket, what was done, and other information for reporting purposes. FileMaker's relational features are used extensively to maximize the utility of the system — related tables include hardware inventory, IP addresses, b-jacks, a faculty/staff table, etc.



Trouble shooting staff currently serve faculty and staff in three buildings, approximately 300 computers. The staff includes one full time and one half time network administrator, a team of three part time graduate assistants (who together comprise one f.t.e.) and an additional hourly network support person from campus computing services. They are hoping to add another half time network administrator soon. In its first year of operation, the Office received over 1000 calls for help. The troubleshooters are often overwhelmed. At particular "crunch" times, we have had to supplement this group with additional part time hourly help.

In addition to the trouble ticket operation, a newly established group is meeting to discuss technical problems. The "Unit Reps" group meets twice a month for training and to discuss common computing-related problems. The goal of this program is to raise the level of technical expertise throughout the college by strategically selecting and training a member (representative) of each unit to communicate what they learn with those whom they work on a daily basis. Units include traditional departments (such as Curriculum and Instruction) and other units (such as the Bureau of Educational Research). The Unit Reps tend to be administrative secretaries in each unit, but the meetings are not restricted to this group. Others are welcome to attend. By emphasizing the fact that they are expected to be role models or teachers rather than "troubleshooters," we communicate our desire to have them show others how to

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help themselves, rather than become burdened by demands for technical support.

Conclusion

Now in its second year of operation, and in its first year of permanent funding, the Office of Educational Technology has supported faculty and staff by multiple means, including stranding, consulting, workshops, trouble tickets, and regular unit rep. meetings. As the Office evolves and matures, we will continue to refine these approaches and, most likely, try others. The exponential growth of technology and its inherent needs for technical and developmental support makes centralized, equitable support a desirable option for Colleges of Education.

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